

Yosemite National Park

National Park Service
U.S. Department of the Interior



Happy Isles Gauging Station Bridge Removal



Background

The bridge was removed in the fall of 2001 after completion of environmental documentation.

Constructed in 1921, the Happy Isles Gauging Station Bridge was a cast-in-place, all-concrete structure, initially used by vehicles. Prior to the 1997 flood, its primary use was to provide pedestrian access to the John Muir and Mist Trails. Access to these trails continues to be provided by the Happy Isles Vehicle Bridge located approximately 500 feet downstream.

What was the bridge?

The Happy Isles Gauging Station Bridge spanned the Merced Wild and Scenic River in Yosemite Valley's east end. Located near the Nature Center at Happy Isles, the bridge crossed the river at the location of one of the Sierra Nevada's most prominent trailheads—the 211-mile John Muir Trail. Millions of visitors use this departure point on the east bank of the river to access the Mist Trail up to Vernal and Nevada Falls in Yosemite.

The Happy Isles Stream Gauge, operated by the U.S. Geological Survey is located along the east side of the river. This gauge has been in operation since 1915 and has the longest continuous record of stream flow data available anywhere in California. It is managed as a benchmark station and acts as an early warning system for floods in Yosemite Valley. Currently, data is transmitted once per hour to a satellite where it is immediately available on the Internet and is downloaded weekly for U.S. Geological Survey records.

Why was the bridge removed?

The bridge was badly damaged during the 1997 flood and was deemed unsafe by representatives of the Federal Highway Administration. Based on these findings, it was condemned for safety reasons in July 1997. The bridge continued to deteriorate and began to show signs of immediate failure in 2000 when a large sinkhole appeared on the west abutment (shown above).

The loss of support under the west abutment caused the structure to hang from the west wingwalls, introducing stresses for which the bridge was not designed. The west abutment area was also cracking and crumbling, indicating severe failure and imminent collapse of the structure.

Due to the threat to public health and safety, the bridge was removed in the fall of 2001. The east abutment was retained to protect the operational stream flow gauge.

What were the key resource concerns?

If the bridge had not been removed, the risk of it experiencing an uncontrolled collapse during a period of high water was great. If this had occurred, the collapse could have created an unnatural dam in the river, causing uncontrolled erosion to both banks endangering park visitors, local resources, the Happy Isles Gauging Station, the John Muir Trail, and Yosemite Valley's water supply line.

When was the bridge removed?

Demolition was performed in the fall of 2001 during low water as required by the U.S. Army Corps of Engineers permit.



Project Timeline

Public involvement in preparation for the Environmental Assessment:
Spring 2001

Public comment period on the Environmental Assessment:
Summer 2001

Bridge removal:
Fall 2001

Bridge replacement:
Undetermined

How was the bridge removed?

The bridge was removed in the fall of 2001 using a “controlled demolition” method, which included installation of a temporary structural support system to prevent uncontrolled collapse of the bridge structure during demolition. The bridge was then separated into liftable segments which were removed using equipment located on the riverbank (see above). Temporary floating tubs were installed beneath the bridge to prevent slurry from concrete saws, as well as debris, from falling into the Merced River. The river- right abutment, located on a large boulder on the riverbank, was retained to protect the historic Happy Isles Gauging Station. Although the bridge was removed last Fall, landscaping and cleanup are currently ongoing, after being put on hold due to the winter weather conditions. It is anticipated this work will be complete in July of 2002.

The National Park Service applied several Best Management Practices during demolition to protect resources, including erosion control, bank stabilization, and revegetation.

This portion of the Merced River is now returned to a more natural condition and the free- flowing condition of this Wild and Scenic River has been enhanced.

Will the bridge be replaced?

The National Park Service eventually plans to replace this bridge as a separate project in the future as described in the *Yosemite Valley Plan*.

How can the public remain involved?

Although the bridge has been removed, you can continue to participate in Yosemite’s planning processes. Here are some ways to stay involved:

- Add your name to the Planning Mailing List
- Check out more information on the park's planning web site: www.nps.gov/yose/planning/

Mail: Superintendent

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